

AMENDMENTS

Please amend the application as indicated hereafter.

To the Claims:

Claim 1. (currently amended) A semiconductor cleaning method, comprising:
providing a semiconductor wafer;
forming a first layer of oxide over the semiconductor wafer;
forming a floating gate layer over the first layer of oxide;
forming a second layer of oxide over the floating gate layer;
etching the first layer of oxide, the floating gate layer, and the second layer of oxide to form a gate structure;

performing a cleaning process to the semiconductor wafer, wherein the cleaning process is consisting of following steps:

rinsing the semiconductor wafer including the gate structure using an ozonated de-ionized (DI) water;

further ~~cleaning~~ rinsing the ozonated water-rinsed semiconductor wafer using a first cleaning solution, wherein the first cleaning solution is a HF:HCl:H₂O solution or at least one of H₂O:H₂O₂:NH₄OH solution and H₂O:H₂O₂:HCl solution; and

additionally ~~cleaning~~ rinsing the further ~~cleaned~~ rinsed semiconductor wafer using the ozonated DI water.

Claim 2. (original) The method of claim 1, wherein the floating gate comprises polysilicon or nitride.

Claim 3. (original) The method of claim 1, wherein the semiconductor wafer has formed therein at least one device.

Claim 4. (original) The method of claim 1, wherein the semiconductor wafer has accumulated thereon contaminants accumulated during at least one previous processing step.

Claim 5. (previously presented) The method of claim 4, wherein the contaminants comprise polymer.

Claim 6. (original) The method of claim 5, wherein the polymer comprises photoresist.

Claim 7. (previously presented) The method of claim 1, wherein the first cleaning solution comprises the $\text{H}_2\text{O}:\text{H}_2\text{O}_2:\text{NH}_4\text{OH}$ solution, and the proportions of $\text{H}_2\text{O}:\text{H}_2\text{O}_2:\text{NH}_4\text{OH}$ are within the range of 4-80:1-5:1.

Claim 8. (previously presented) The method of claim 7, wherein the proportions of $\text{H}_2\text{O}:\text{H}_2\text{O}_2:\text{NH}_4\text{OH}$ are 80:3.1: 2.1.

Claim 9. (withdrawn) The method of claim 1, wherein the first cleaning solution comprises the $\text{H}_2\text{O}:\text{H}_2\text{O}_2:\text{HCl}$ solution, and the proportions of $\text{H}_2\text{O}:\text{H}_2\text{O}_2:\text{HCl}$ are within the range of 4-80:1-5: 1.

Claim 10. (withdrawn) The method of claim 9, wherein the proportions of $\text{H}_2\text{O}:\text{H}_2\text{O}_2:\text{HCl}$ are 80:2.2: 1.3.

Claim 11. (withdrawn) The method of claim 1, wherein the first cleaning solution comprises the $\text{HF}:\text{HCl}:\text{H}_2\text{O}$ solution, and the proportions of $\text{HF}:\text{HCl}:\text{H}_2\text{O}$ are 1:1.3:400.

Claim 12. (original) The method of claim 1, wherein the concentration of ozone in the ozonated DI water is within the range of 10-80 ppm.

Claim 13. (original) The method of claim 12, wherein the concentration of ozone in the ozonated DI water is 40 ppm.

Claims 14-20. (**canceled**)